

FRICTION WELDED STRUCTURAL ASSEMBLY  
AND PREFORM AND METHOD FOR SAME

ABSTRACT OF THE DISCLOSURE

Expanded structural assemblies and preforms and methods therefor are provided. Each preform can include at least two structural members in a stacked relationship, defining cells that can be inflated to expand the preform. Elongate members can be disposed between the structural members along the cells to define passages through which fluid can be received during expanding. Further, the structural members of the preform can be connected by friction stir weld joints, some of which can extend only partially through the preform so that the preform defines cells that can be expanded. More than one adjacent friction stir weld joint can be disposed between adjacent cells of the preform to define multiple-pass friction stir weld joints.

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